

SEQUENCE LISTING

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<130> 3206-169/PAR

<140> PCT/CA99/00375

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<150> 2,230,201

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agt ttt agt tct ggg gat ata att cag gtt gat gaa aaa act gta gga Ser Phe Ser Ser Gly Asp Ile Ile Gln Val Asp Glu Lys Thr Val Gly 740 745 750	2256
gag cct ggt tgg ctt tat ggt agt ttt cag gga aag ttt ggc tgg ttc Glu Pro Gly Trp Leu Tyr Gly Ser Phe Gln Gly Lys Phe Gly Trp Phe 755 760 765	2304
ccc tgc aac tat gta gaa aaa gtg ctg tca agt gaa aaa gct ctg tct Pro Cys Asn Tyr Val Glu Lys Val Leu Ser Ser Glu Lys Ala Leu Ser 770 775 780	2352
cct aag aag gcc tta ctt cct cct aca gtg tct ctc tct gct acc tca Pro Lys Lys Ala Leu Leu Pro Pro Thr Val Ser Leu Ser Ala Thr Ser 785 790 795 800	2400
act tct tcc cag cca cca gca tca gtg act gat tat cac aat gta tcc Thr Ser Ser Gln Pro Pro Ala Ser Val Thr Asp Tyr His Asn Val Ser 805 810 815	2448
ttc tca aac ctt act gtt aat aca aca tgg cag cag aag tca gct ttt Phe Ser Asn Leu Thr Val Asn Thr Thr Trp Gln Gln Lys Ser Ala Phe 820 825 830	2496
acc cgc act gtg tcc cct gga tct gtg tcc ccc att cac gga cag ggg Thr Arg Thr Val Ser Pro Gly Ser Val Ser Pro Ile His Gly Gln Gly 835 840 845	2544
cag gct gta gaa aac ctg aaa gcc cag gcc ctt tgt tcc tgg acg gca Gln Ala Val Glu Asn Leu Lys Ala Gln Ala Leu Cys Ser Trp Thr Ala 850 855 860	2592
aag aag gag aac cac ctg aac ttc tca aag cac gac gtc atc act gtc Lys Lys Glu Asn His Leu Asn Phe Ser Lys His Asp Val Ile Thr Val 865 870 875 880	2640

ctg gag cag cag gaa aac tgg tgg ttt ggg gag gtg cac gga gga aga	2688
Leu Glu Gln Gln Glu Asn Trp Trp Phe Gly Glu Val His Gly Gly Arg	
885 890 895	
gga tgg ttc ccc aag tct tat gtc aag ctc att cct ggg aat gaa gta	2736
Gly Trp Phe Pro Lys Ser Tyr Val Lys Leu Ile Pro Gly Asn Glu Val	
900 905 910	
cag cga gga gag cca gaa gct ttg tat gca gct gtg act aag aaa cct	2784
Gln Arg Gly Glu Pro Glu Ala Leu Tyr Ala Ala Val Thr Lys Lys Pro	
915 920 925	
acc tcc aca gcc tat cca gtt acc tcc aca gcc tat cca gtt gga gaa	2832
Thr Ser Thr Ala Tyr Pro Val Thr Ser Thr Ala Tyr Pro Val Gly Glu	
930 935 940	
gac tac att gca ctt tat tca tac tca agt gta gag ccc ggg gat ttg	2880
Asp Tyr Ile Ala Leu Tyr Ser Tyr Ser Ser Val Glu Pro Gly Asp Leu	
945 950 955 960	
act ttc act gaa ggt gaa gaa att cta gtg acc cag aaa gat gga gag	2928
Thr Phe Thr Glu Gly Glu Glu Ile Leu Val Thr Gln Lys Asp Gly Glu	
965 970 975	
tgg tgg aca gga agt att gga gag aga act gga atc ttc ccg tcc aac	2976
Trp Trp Thr Gly Ser Ile Gly Glu Arg Thr Gly Ile Phe Pro Ser Asn	
980 985 990	
tac gtc aga cca aag gat caa gag aat ttt ggg aat gct agc aaa tct	3024
Tyr Val Arg Pro Lys Asp Gln Glu Asn Phe Gly Asn Ala Ser Lys Ser	
995 1000 1005	
gga gca tca aac aaa aaa ccc gag atc gct caa gta act tca gca tat	3072
Gly Ala Ser Asn Lys Lys Pro Glu Ile Ala Gln Val Thr Ser Ala Tyr	
1010 1015 1020	
gct gct tca ggg act gag cag ctc agc ctt gcg cca gga cag tta ata	3120
Ala Ala Ser Gly Thr Glu Gln Leu Ser Leu Ala Pro Gly Gln Leu Ile	
1025 1030 1035 1040	
tta atc tta aag aaa aac aca agc ggg tgg tgg caa gga gag cta cag	3168
Leu Ile Leu Lys Lys Asn Thr Ser Gly Trp Trp Gln Gly Glu Leu Gln	
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gcc aga ggg aag aaa cga cag aag gga tgg ttt cct gcc agc cat gta	3216
Ala Arg Gly Lys Lys Arg Gln Lys Gly Trp Phe Pro Ala Ser His Val	
1060 1065 1070	
aag ctg cta ggt cca agc agt gaa aga acc atg cct act ttt cac gct	3264
Lys Leu Leu Gly Pro Ser Ser Glu Arg Thr Met Pro Thr Phe His Ala	
1075 1080 1085	
gta tgt caa gtg att gct atg tat gac tac atg gcg aat aac gaa gat	3312
Val Cys Gln Val Ile Ala Met Tyr Asp Tyr Met Ala Asn Asn Glu Asp	
1090 1095 1100	
gag ctc aat ttc tcc aaa gga cag ctg att aat gtt atg aac aaa gat	3360
Glu Leu Asn Phe Ser Lys Gly Gln Leu Ile Asn Val Met Asn Lys Asp	
1105 1110 1115 1120	

gac cct gac tgg tgg caa gga gaa acc aat ggt ctg act ggt ctc ttt 3408  
 Asp Pro Asp Trp Trp Gln Gly Glu Thr Asn Gly Leu Thr Gly Leu Phe  
                   1125                  1130                  1135

cct tca aac tat gtt aag atg aca aca gac tca gat cca agt caa cag 3456  
 Pro Ser Asn Tyr Val Lys Met Thr Thr Asp Ser Asp Pro Ser Gln Gln  
                   1140                  1145                  1150

tgg tgt gct gac ctc caa gcc ctg gac aca atg cag cct acg gag agg 3504  
 Trp Cys Ala Asp Leu Gln Ala Leu Asp Thr Met Gln Pro Thr Glu Arg  
                   1155                  1160                  1165

aag cga cag ggc tac att cac gag ctc att cag aca gag gag cgg tac 3552  
 Lys Arg Gln Gly Tyr Ile His Glu Leu Ile Gln Thr Glu Glu Arg Tyr  
                   1170                  1175                  1180

atg gac gac ctg caa ctt ttt gaa caa aaa act ctc ctt tga 3594  
 Met Asp Asp Leu Gln Leu Phe Glu Gln Lys Thr Leu Leu  
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 <213> Mus musculus

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                   20                  25                  30

Lys Pro Ser Gly Gly Tyr Ile Thr Gly Asp Gln Ala Arg Thr Phe Phe  
                   35                  40                  45

Leu Gln Ser Gly Leu Pro Ala Pro Val Leu Ala Glu Ile Trp Ala Leu  
                   50                  55                  60

Ser Asp Leu Asn Lys Asp Gly Lys Met Asp Gln Gln Glu Phe Ser Ile  
                   65                  70                  75                  80

Ala Met Lys Leu Ile Lys Leu Lys Leu Gln Gly Gln Gln Leu Pro Val  
                   85                  90                  95

Val Leu Pro Pro Ile Met Lys Gln Pro Pro Met Phe Ser Pro Leu Ile  
                   100                  105                  110

Ser Ala Arg Phe Gly Met Gly Ser Met Pro Asn Leu Ser Ile His Gln  
                   115                  120                  125

Pro Leu Pro Pro Val Ala Pro Ile Ala Thr Pro Leu Ser Ser Ala Thr  
                   130                  135                  140

Ser Gly Thr Ser Ile Pro Pro Leu Met Met Pro Ala Pro Leu Val Pro  
                   145                  150                  155                  160

Ser Val Ser Thr Ser Ser Leu Pro Asn Gly Thr Ala Ser Leu Ile Gln  
                   165                  170                  175

Pro Leu Ser Ile Pro Tyr Ser Ser Ser Thr Leu Pro His Ala Ser Ser  
 180 185 190  
 Tyr Ser Leu Met Met Gly Gly Phe Gly Gly Ala Ser Ile Gln Lys Ala  
 195 200 205  
 Gln Ser Leu Ile Asp Leu Gly Ser Ser Ser Ser Thr Ser Ser Thr Ala  
 210 215 220  
 Ser Leu Ser Gly Asn Ser Pro Lys Thr Gly Thr Ser Glu Trp Ala Val  
 225 230 235 240  
 Pro Gln Pro Ser Arg Leu Lys Tyr Arg Gln Lys Phe Asn Ser Leu Asp  
 245 250 255  
 Lys Gly Met Ser Gly Tyr Leu Ser Gly Phe Gln Ala Arg Asn Ala Leu  
 260 265 270  
 Leu Gln Ser Asn Leu Ser Gln Thr Gln Leu Ala Thr Ile Trp Thr Leu  
 275 280 285  
 Ala Asp Ile Asp Gly Asp Gly Gln Leu Lys Ala Glu Glu Phe Ile Leu  
 290 295 300  
 Ala Met His Leu Thr Asp Met Ala Lys Ala Gly Gln Pro Leu Pro Leu  
 305 310 315 320  
 Thr Leu Pro Pro Glu Leu Val Pro Pro Ser Phe Arg Gly Gly Lys Gln  
 325 330 335  
 Val Asp Ser Val Asn Gly Thr Leu Pro Ser Tyr Gln Lys Thr Gln Glu  
 340 345 350  
 Glu Glu Pro Gln Lys Lys Leu Pro Val Thr Phe Glu Asp Lys Arg Lys  
 355 360 365  
 Ala Asn Tyr Glu Arg Gly Asn Met Glu Leu Glu Lys Arg Arg Gln Val  
 370 375 380  
 Leu Met Glu Gln Gln Gln Arg Glu Ala Glu Arg Lys Ala Gln Lys Glu  
 385 390 395 400  
 Lys Glu Glu Trp Glu Arg Lys Gln Arg Glu Leu Gln Glu Gln Glu Trp  
 405 410 415  
 Lys Lys Gln Leu Glu Leu Glu Lys Arg Leu Glu Lys Gln Arg Glu Leu  
 420 425 430  
 Glu Arg Gln Arg Glu Glu Glu Arg Arg Lys Glu Ile Glu Arg Arg Glu  
 435 440 445  
 Ala Ala Lys Gln Glu Leu Glu Arg Gln Arg Arg Leu Glu Trp Glu Arg  
 450 455 460  
 Leu Arg Arg Gln Glu Leu Leu Ser Gln Lys Thr Arg Glu Gln Glu Asp  
 465 470 475 480  
 Ile Val Arg Leu Ser Ser Arg Lys Lys Ser Leu His Leu Glu Leu Glu  
 485 490 495

Ala Val Asn Gly Lys His Gln Gln Ile Ser Gly Arg Leu Gln Asp Val  
 500 505 510  
 Gln Ile Arg Lys Gln Thr Gln Lys Thr Glu Leu Glu Val Leu Asp Lys  
 515 520 525  
 Gln Cys Asp Leu Glu Ile Met Glu Ile Lys Gln Leu Gln Gln Glu Leu  
 530 535 540  
 Lys Glu Tyr Gln Asn Lys Leu Ile Tyr Leu Val Pro Glu Lys Gln Leu  
 545 550 555 560  
 Leu Asn Glu Arg Ile Lys Asn Met Gln Leu Ser Asn Thr Pro Asp Ser  
 565 570 575  
 Gly Ile Ser Leu Leu His Lys Lys Ser Ser Glu Lys Glu Glu Leu Cys  
 580 585 590  
 Gln Arg Leu Lys Glu Gln Leu Asp Ala Leu Glu Lys Glu Thr Ala Ser  
 595 600 605  
 Lys Leu Ser Glu Met Asp Ser Phe Asn Asn Gln Leu Lys Glu Leu Arg  
 610 615 620  
 Glu Ser Tyr Asn Thr Gln Gln Leu Ala Leu Glu Gln Leu His Lys Ile  
 625 630 635 640  
 Lys Arg Asp Lys Leu Lys Glu Ile Glu Arg Lys Arg Leu Glu Gln Ile  
 645 650 655  
 Gln Lys Lys Lys Leu Glu Asp Glu Ala Ala Arg Lys Ala Lys Gln Gly  
 660 665 670  
 Lys Glu Asn Leu Trp Arg Glu Ser Ile Arg Lys Glu Glu Glu Lys  
 675 680 685  
 Gln Lys Arg Leu Gln Glu Glu Lys Ser Gln Asp Lys Thr Gln Glu Glu  
 690 695 700  
 Glu Arg Lys Ala Glu Ala Lys Gln Ser Glu Thr Ala Ser Ala Leu Val  
 705 710 715 720  
 Asn Tyr Arg Ala Leu Tyr Pro Phe Glu Ala Arg Asn His Asp Glu Met  
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 Ser Phe Ser Ser Gly Asp Ile Ile Gln Val Asp Glu Lys Thr Val Gly  
 740 745 750  
 Glu Pro Gly Trp Leu Tyr Gly Ser Phe Gln Gly Lys Phe Gly Trp Phe  
 755 760 765  
 Pro Cys Asn Tyr Val Glu Lys Val Leu Ser Ser Glu Lys Ala Leu Ser  
 770 775 780  
 Pro Lys Lys Ala Leu Leu Pro Pro Thr Val Ser Leu Ser Ala Thr Ser  
 785 790 795 800  
 Thr Ser Ser Gln Pro Pro Ala Ser Val Thr Asp Tyr His Asn Val Ser  
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Phe Ser Asn Leu Thr Val Asn Thr Thr Trp Gln Gln Lys Ser Ala Phe  
820 825 830  
Thr Arg Thr Val Ser Pro Gly Ser Val Ser Pro Ile His Gly Gln Gly  
835 840 845  
Gln Ala Val Glu Asn Leu Lys Ala Gln Ala Leu Cys Ser Trp Thr Ala  
850 855 860  
Lys Lys Glu Asn His Leu Asn Phe Ser Lys His Asp Val Ile Thr Val  
865 870 875 880  
Leu Glu Gln Gln Glu Asn Trp Trp Phe Gly Glu Val His Gly Gly Arg  
885 890 895  
Gly Trp Phe Pro Lys Ser Tyr Val Lys Leu Ile Pro Gly Asn Glu Val  
900 905 910  
Gln Arg Gly Glu Pro Glu Ala Leu Tyr Ala Ala Val Thr Lys Lys Pro  
915 920 925  
Thr Ser Thr Ala Tyr Pro Val Thr Ser Thr Ala Tyr Pro Val Gly Glu  
930 935 940  
Asp Tyr Ile Ala Leu Tyr Ser Tyr Ser Ser Val Glu Pro Gly Asp Leu  
945 950 955 960  
Thr Phe Thr Glu Gly Glu Glu Ile Leu Val Thr Gln Lys Asp Gly Glu  
965 970 975  
Trp Trp Thr Gly Ser Ile Gly Glu Arg Thr Gly Ile Phe Pro Ser Asn  
980 985 990  
Tyr Val Arg Pro Lys Asp Gln Glu Asn Phe Gly Asn Ala Ser Lys Ser  
995 1000 1005  
Gly Ala Ser Asn Lys Lys Pro Glu Ile Ala Gln Val Thr Ser Ala Tyr  
1010 1015 1020  
Ala Ala Ser Gly Thr Glu Gln Leu Ser Leu Ala Pro Gly Gln Leu Ile  
1025 1030 1035 1040  
Leu Ile Leu Lys Lys Asn Thr Ser Gly Trp Trp Gln Gly Glu Leu Gln  
1045 1050 1055  
Ala Arg Gly Lys Lys Arg Gln Lys Gly Trp Phe Pro Ala Ser His Val  
1060 1065 1070  
Lys Leu Leu Gly Pro Ser Ser Glu Arg Thr Met Pro Thr Phe His Ala  
1075 1080 1085  
Val Cys Gln Val Ile Ala Met Tyr Asp Tyr Met Ala Asn Asn Glu Asp  
1090 1095 1100  
Glu Leu Asn Phe Ser Lys Gly Gln Leu Ile Asn Val Met Asn Lys Asp  
1105 1110 1115 1120  
Asp Pro Asp Trp Trp Gln Gly Glu Thr Asn Gly Leu Thr Gly Leu Phe  
1125 1130 1135



Pro Ser Asn Tyr Val Lys Met Thr Thr Asp Ser Asp Pro Ser Gln Gln  
 1140 1145 1150

Trp Cys Ala Asp Leu Gln Ala Leu Asp Thr Met Gln Pro Thr Glu Arg  
 1155 1160 1165

Lys Arg Gln Gly Tyr Ile His Glu Leu Ile Gln Thr Glu Glu Arg Tyr  
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Met Asp Asp Leu Gln Leu Phe Glu Gln Lys Thr Leu Leu  
 185 1190 1195

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 <212> DNA  
 <213> Mus musculus

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 agaagaaacg ggaaaaggct taccaagccc gttctcaaaa gacttcaggt attgggcgtc 180  
 tgatggtgca tgtcattgaa gctacagaat taaaagcctg caaaccaaac gggaaaagta 240  
 atccatactg tgaagtcagc atgggctccc aaagctatac caccaggacc ctgcaggaca 300  
 cactaaaccc caagtgaac ttcaactgcc agttcttcat caaggatctt taccaggacg 360  
 ttctgtgtct cactatgttt gagagagacc agttttctcc agatgacttc ttgggtcgta 420  
 ctgaagttcc agtggcaaaa atccgaacag aacaggaaag caaaggcccc accaccgcc 480  
 gactactact gcacgaagtc cccactggag aagtctgggt ccgctttgac ctgcaacttt 540  
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 aggctgggtc taaagacaga ttttgccttc ccaggacaga ggagcatcac atggcttcat 660  
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 Glu Gln Tyr Ile Asp Thr Glu Lys Lys Lys Arg Glu Lys Ala Tyr Gln  
 35 40 45

Ala Arg Ser Gln Lys Thr Ser Gly Ile Gly Arg Leu Met Val His Val  
50 55 60

Ile Glu Ala Thr Glu Leu Lys Ala Cys Lys Pro Asn Gly Lys Ser Asn  
65 70 75 80

Pro Tyr Cys Glu Val Ser Met Gly Ser Gln Ser Tyr Thr Thr Arg Thr  
85 90 95

Leu Gln Asp Thr Leu Asn Pro Lys Trp Asn Phe Asn Cys Gln Phe Phe  
100 105 110

Ile Lys Asp Leu Tyr Gln Asp Val Leu Cys Leu Thr Met Phe Asp Arg  
115 120 125

Asp Gln Phe Ser Pro Asp Asp Phe Leu Gly Arg Thr Glu Val Pro Val  
130 135 140

Ala Lys Ile Arg Thr Glu Gln Glu Ser Lys Gly Pro Thr Thr Arg Arg  
145 150 155 160

Leu Leu Leu His Glu Val Pro Thr Gly Glu Val Trp Val Arg Phe Asp  
165 170 175

Leu Gln Leu Phe Glu Gln Lys Thr Leu Leu  
180 185

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tttaagccca gccagaaagg cttttcagga ggaaccaagt ccttcacatgga ctttggcagc 180  
tgggagagac acacgaaagg gatcgggcag aagctgctgc agaagatggg ctacgtccct 240  
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aaaggcaagg gagccgtggg ggcctatggc tcggagagga ccactcagtc tctgcaggac 360  
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gagctgaagg ccaagggcag ggtcagcaag aagctcacag cacctcagaa ggaactgtct 540  
caggtcaagg tgatcgacat gacaggccgg gagcagaagg tgtactacag ctacagccaa 600  
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acagccggca aggaagccag gatgccgggc ttgacactgc ctgagctgga gcacaacctg 720  
cagctgctca ttgagcgcac ggagcaggag atcatccaga gcgaccggca gctccagtat 780

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cgccgcatgc agcccatgag caccgacccc ctactctgag atgagtgtgc ccgcatcttt 960  
gagacactac aggacaagta ttatgaggag taccgcctgg cggaccgcgc agacctcgct 1020  
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<212> PRT  
<213> Mus musculus

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Gly Leu Gly Lys Asn Ala Gln Gly Ile Ile Asn Pro Ile Glu Ala Lys  
35 40 45  
Gln Arg Lys Gly Lys Gly Ala Val Gly Ala Tyr Gly Ser Glu Arg Thr  
50 55 60  
Thr Gln Ser Leu Gln Asp Phe Pro Val Ala Asp Ser Glu Glu Glu Ala  
65 70 75 80  
Glu Glu Glu Phe Gln Lys Glu Leu Ser Gln Trp Arg Lys Asp Pro Ser  
85 90 95  
Gly Ser Lys Lys Lys Pro Lys Tyr Ser Tyr Lys Thr Val Glu Glu Leu  
100 105 110  
Lys Ala Lys Gly Arg Val Ser Lys Lys Leu Thr Ala Pro Gln Lys Glu  
115 120 125  
Leu Ser Gln Val Lys Val Ile Asp Met Thr Gly Arg Glu Gln Lys Val  
130 135 140  
Tyr Tyr Ser Tyr Ser Gln Ile Ser His Lys His Ser Val Pro Asp Glu  
145 150 155 160  
Gly Val Pro Leu Leu Ala Gln Leu Pro Pro Thr Ala Gly Lys Glu Ala  
165 170 175  
Arg Met Pro Gly Phe Ala Leu Pro Glu Leu Glu His Asn Leu Gln Leu  
180 185 190  
Leu Ile Glu Arg Thr Glu Gln Glu Ile Ile Gln Ser Asp Arg Gln Leu  
195 200 205  
Gln Tyr Glu Arg Asp Met Val Val Ser Leu Ser His Glu Leu Glu Lys  
210 215 220

Thr Ala Glu Val Leu Ala His Glu Glu Arg Val Ile Ser Asn Leu Ser  
 225 230 235 240

Lys Val Leu Ala Leu Val Glu Glu Cys Glu Arg Arg Met Gln Pro His  
 245 250 255

Gly Thr Asp Pro Leu Thr Leu Asp Glu Cys Ala Arg Ile Phe Glu Thr  
 260 265 270

Leu Gln Asp Lys Tyr Tyr Glu Glu Tyr Arg Leu Ala Asp Arg Ala Asp  
 275 280 285

Leu Ala Val Ala Ile Val Tyr Pro Leu Val Lys Asp Tyr Phe Lys Asp  
 290 295 300

Trp His Pro Ser Arg  
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 <212> DNA  
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 <212> DNA  
 <213> Mus musculus

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 tgc 123

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 <213> Mus musculus

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<400> 14

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35 40 45  
Ser Ala Asn Pro Ala Lys Thr Met Gln Gly Ser Glu Val Val Ser Val  
50 55 60  
Leu Lys Ser Leu Leu Ser Asn Leu Asp Glu Ile Lys Lys Glu Arg Glu  
65 70 75 80  
Ser Leu Glu Asn Asp Leu Lys Ser Val Asn Phe Asp Met Thr Ser Lys  
85 90 95  
Phe Leu Thr Ala Leu Ala Gln Asp Gly Val Ile Asn Glu Glu Ala Leu  
100 105 110  
Ser Val Thr Glu Leu Asp Arg Ile Tyr Gly Gly Leu Thr Ser Lys Val  
115 120 125  
Gln Glu Ser Leu Lys Lys Gln Glu Gly Leu Leu Lys Asn Ile Gln Val  
130 135 140  
Ser His Gln Glu Phe Ser Lys Met Lys Gln Ser Asn Asn Glu Ala Asn

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165	170		175
Val Glu Leu Val Ala	Asn Leu Lys Glu	Gly Thr Lys Phe	Tyr Asn Glu
180	185		190
Leu Thr Glu Ile Leu	Val Arg Phe Gln	Asn Lys Cys Ser	Asp Ile Val
195	200		205
Phe Ala Arg Lys Thr	Glu Arg Asp Glu	Leu Leu Lys Asp	Leu Gln Gln
210	215	220	
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Gln Ser Ser Pro Ala	Ala Gly His Ala	Ala Ala Pro Pro	Thr Pro Ala
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Pro Arg Thr Met Pro	Pro Ala Lys Pro	Gln Pro Pro Ala	Arg Pro Pro
260	265		270
Pro Pro Val Leu Pro	Ala Asn Arg Val	Pro Pro Ala Ser	Ala Ala Ala
275	280		285
Ala Pro Ala Gly Val	Gly Thr Ala Ser	Ala Ala Pro Pro	Gln Thr Pro
290	295	300	
Gly Ser Ala Pro Pro	Pro Gln Ala Gln	Gly Pro Pro Tyr	Pro Thr Tyr
305	310	315	320
Pro Gly Tyr Pro Gly	Tyr Cys Gln Met	Pro Met Pro Met	Gly Tyr Asn
325	330		335
Pro Tyr Ala Tyr Gly	Gln Tyr Asn Met	Pro Tyr Pro Pro	Val Tyr His
340	345		350
Gln Ser Pro Gly Gln	Ala Pro Tyr Pro	Gly Pro Gln Gln	Pro Thr Tyr
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<211> 1738

<212> DNA

<213> Mus musculus

<400> 17

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<212> DNA  
<213> Mus musculus

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 <212> DNA  
 <213> Mus musculus

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 <211> 801  
 <212> DNA  
 <213> Mus musculus

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 <211> 119  
 <212> DNA  
 <213> Mus musculus

<400> 21

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<210> 22

<211> 5738

<212> DNA

<213> Mus musculus

<400> 22

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tcc	ctc	tca	ggg	aac	tca	cct	aag	aca	ggg	acc	tca	gag	tgg	gca	gtt	720	
Ser	Leu	Ser	Gly	Asn	Ser	Pro	Lys	Thr	Gly	Thr	Ser	Glu	Trp	Ala	Val		
	225				230					235					240		
cct	cag	cct	tca	aga	tta	aag	tat	cgg	caa	aaa	ttt	aat	agt	cta	gac	768	



Pro	Gln	Pro	Ser	Arg	Leu	Lys	Tyr	Arg	Gln	Lys	Phe	Asn	Ser	Leu	Asp	
				245					250					255		
aaa	ggc	atg	agc	gga	tac	ctc	tca	ggg	ttt	caa	gct	aga	aat	gcc	ctt	816
Lys	Gly	Met	Ser	Gly	Tyr	Leu	Ser	Gly	Phe	Gln	Ala	Arg	Asn	Ala	Leu	
			260					265					270			
ctt	cag	tca	aat	ctc	tct	caa	act	cag	cta	gct	act	att	tgg	act	ctg	864
Leu	Gln		Asn	Leu	Ser	Gln	Thr	Gln	Leu	Ala	Thr	Ile	Trp	Thr	Leu	
			275				280					285				
gct	gac	atc	gat	ggg	gac	gga	cag	ttg	aaa	gct	gaa	gaa	ttt	att	ctg	912
Ala	Asp	Ile	Asp	Gly	Asp	Gly	Gln	Leu	Lys	Ala	Glu	Glu	Phe	Ile	Leu	
	290					295					300					
gcg	atg	cac	ctc	act	gac	atg	gcc	aaa	gct	gga	cag	cca	cta	cca	ctg	960
Ala	Met	His	Leu	Thr	Asp	Met	Ala	Lys	Ala	Gly	Gln	Pro	Leu	Pro	Leu	
305					310					315					320	
acg	ttg	cct	ccc	gag	ctt	gtc	cct	cca	tct	ttc	aga	ggg	gga	aag	caa	1008
Thr	Leu	Pro	Pro	Glu	Leu	Val	Pro	Pro	Ser	Phe	Arg	Gly	Gly	Lys	Gln	
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gtt	gat	tct	gtt	aat	gga	act	ctg	cct	tca	tat	cag	aaa	aca	caa	gaa	1056
Val	Asp	Ser	Val	Asn	Gly	Thr	Leu	Pro	Ser	Tyr	Gln	Lys	Thr	Gln	Glu	
			340					345					350			
gaa	gag	cct	cag	aag	aaa	ctg	cca	gtt	act	ttt	gag	gac	aaa	cgg	aaa	1104
Glu	Glu	Pro	Gln	Lys	Lys	Leu	Pro	Val	Thr	Phe	Glu	Asp	Lys	Arg	Lys	
		355					360					365				
gcc	aac	tat	gaa	cga	gga	aac	atg	gag	ctg	gag	aag	cga	cgc	caa	gtg	1152
Ala	Asn	Tyr	Glu	Arg	Gly	Asn	Met	Glu	Leu	Glu	Lys	Arg	Arg	Gln	Val	
	370					375					380					
ttg	atg	gag	cag	cag	cag	agg	gag	gct	gaa	cgc	aaa	gcc	cag	aaa	gag	1200
Leu	Met	Glu	Gln	Gln	Gln	Arg	Glu	Ala	Glu	Arg	Lys	Ala	Gln	Lys	Glu	
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aag	gaa	gag	tgg	gag	cgg	aaa	cag	aga	gaa	ctg	caa	gag	caa	gaa	tgg	1248
Lys	Glu	Glu	Trp	Glu	Arg	Lys	Gln	Arg	Glu	Leu	Gln	Glu	Gln	Glu	Trp	
				405					410					415		
aag	aag	cag	ctg	gag	ttg	gag	aaa	cgc	ttg	gag	aaa	cag	aga	gag	ctg	1296
Lys	Lys	Gln	Leu	Glu	Leu	Glu	Lys	Arg	Leu	Glu	Lys	Gln	Arg	Glu	Leu	
			420					425					430			
gag	aga	cag	cgg	gag	gaa	gag	agg	aga	aag	gag	ata	gaa	aga	cga	gag	1344
Glu	Arg	Gln	Arg	Glu	Glu	Glu	Arg	Arg	Lys	Glu	Ile	Glu	Arg	Arg	Glu	
			435				440					445				
gca	gca	aaa	cag	gag	ctt	gag	aga	caa	cgc	cgt	tta	gaa	tgg	gaa	aga	1392
Ala	Ala	Lys	Gln	Glu	Leu	Glu	Arg	Gln	Arg	Arg	Leu	Glu	Trp	Glu	Arg	
			450			455					460					
ctc	cgt	cgg	cag	gag	ctg	ctc	agt	cag	aag	acc	agg	gaa	caa	gaa	gac	1440
Leu	Arg	Arg	Gln	Glu	Leu	Leu	Ser	Gln	Lys	Thr	Arg	Glu	Gln	Glu	Asp	
465					470					475					480	
att	gtc	agg	ctg	agc	tcc	aga	aag	aaa	agt	ctc	cac	ctg	gaa	ctg	gaa	1488

Ile Val Arg Leu Ser Ser Arg Lys Lys Ser Leu His Leu Glu Leu Glu	
485 490 495	
gca gtg aat gga aaa cat cag cag atc tca ggc aga cta caa gat gtc	1536
Ala Val Asn Gly Lys His Gln Gln Ile Ser Gly Arg Leu Gln Asp Val	
500 505 510	
caa atc aga aag caa aca caa aag act gag cta gaa gtt ttg gat aaa	1584
Gln Ile Arg Lys Gln Thr Gln Thr Glu Leu Glu Val Leu Asp Lys	
515 520 525	
cag tgt gac ctg gaa att atg gaa atc aaa caa ctt caa caa gag ctt	1632
Gln Cys Asp Leu Glu Ile Met Glu Ile Lys Gln Leu Gln Gln Glu Leu	
530 535 540	
aag gaa tat caa aat aag ctt atc tat ctg gtc cct gag aag cag cta	1680
Lys Glu Tyr Gln Asn Lys Leu Ile Tyr Leu Val Pro Glu Lys Gln Leu	
545 550 555 560	
tta aac gaa aga att aaa aac atg cag ctc agt aac aca cct gat tca	1728
Leu Asn Glu Arg Ile Lys Asn Met Gln Leu Ser Asn Thr Pro Asp Ser	
565 570 575	
ggg atc agt tta ctt cat aaa aag tca tca gaa aag gaa gaa tta tgc	1776
Gly Ile Ser Leu Leu His Lys Lys Ser Ser Glu Lys Glu Glu Leu Cys	
580 585 590	
caa aga ctt aaa gaa caa tta gat gct ctt gaa aaa gaa act gca tct	1824
Gln Arg Leu Lys Glu Gln Leu Asp Ala Leu Glu Lys Glu Thr Ala Ser	
595 600 605	
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Lys Leu Ser Glu Met Asp Ser Phe Asn Asn Gln Leu Lys Glu Leu Arg	
610 615 620	
gaa agc tat aat aca cag cag tta gcc ctt gaa caa ctt cat aaa atc	1920
Glu Ser Tyr Asn Thr Gln Gln Leu Ala Leu Glu Gln Leu His Lys Ile	
625 630 635 640	
aaa cgt gac aaa ttg aag gaa atc gaa aga aaa aga tta gag caa att	1968
Lys Arg Asp Lys Leu Lys Glu Ile Glu Arg Lys Arg Leu Glu Gln Ile	
645 650 655	
caa aaa aag aaa cta gaa gat gag gct gca agg aaa gca aag caa gga	2016
Gln Lys Lys Lys Leu Glu Asp Glu Ala Ala Arg Lys Ala Lys Gln Gly	
660 665 670	
aaa gaa aac ttg tgg aga gaa agt att aga aag gaa gaa gag gaa aag	2064
Lys Glu Asn Leu Trp Arg Glu Ser Ile Arg Lys Glu Glu Glu Glu Lys	
675 680 685	
caa aaa cga ctc cag gaa gaa aag tca cag gac aaa act caa gaa gag	2112
Gln Lys Arg Leu Gln Glu Glu Lys Ser Gln Asp Lys Thr Gln Glu Glu	
690 695 700	
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Glu Arg Lys Ala Glu Ala Lys Gln Ser Glu Thr Ala Ser Ala Leu Val	
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aat tac aga gca ctg tac cct ttt gaa gca aga aac cat gat gag atg	2208

Asn Tyr Arg Ala Leu Tyr Pro Phe Glu Ala Arg Asn His Asp Glu Met	
725 730 735	
agt ttt agt tct ggg gat ata att cag gtt gat gaa aaa act gta gga	2256
Ser Phe Ser Ser Gly Asp Ile Ile Gln Val Asp Glu Lys Thr Val Gly	
740 745 750	
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Glu Pro Gly Trp Leu Tyr Gly Ser Phe Gln Gly Lys Phe Gly Trp Phe	
755 760 765	
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Pro Cys Asn Tyr Val Glu Lys Val Leu Ser Ser Glu Lys Ala Leu Ser	
770 775 780	
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785 790 795 800	
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Thr Ser Ser Gln Pro Pro Ala Ser Val Thr Asp Tyr His Asn Val Ser	
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Phe Ser Asn Leu Thr Val Asn Thr Thr Trp Gln Gln Lys Ser Ala Phe	
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Thr Arg Thr Val Ser Pro Gly Ser Val Ser Pro Ile His Gly Gln Gly	
835 840 845	
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Gln Ala Val Glu Asn Leu Lys Ala Gln Ala Leu Cys Ser Trp Thr Ala	
850 855 860	
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Lys Lys Glu Asn His Leu Asn Phe Ser Lys His Asp Val Ile Thr Val	
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Leu Glu Gln Gln Glu Asn Trp Trp Phe Gly Glu Val His Gly Gly Arg	
885 890 895	
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Gly Trp Phe Pro Lys Ser Tyr Val Lys Leu Ile Pro Gly Asn Glu Val	
900 905 910	
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Gln Arg Gly Glu Pro Glu Ala Leu Tyr Ala Ala Val Thr Lys Lys Pro	
915 920 925	
acc tcc aca gcc tat cca gtt acc tcc aca gcc tat cca gtt gga gaa	2832
Thr Ser Thr Ala Tyr Pro Val Thr Ser Thr Ala Tyr Pro Val Gly Glu	
930 935 940	
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Asp Tyr Ile Ala Leu Tyr Ser Tyr Ser Ser Val Glu Pro Gly Asp Leu	
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act ttc act gaa ggt gaa gaa att cta gtg acc cag aaa gat gga gag	2928

Thr Phe Thr Glu Gly Glu Glu Ile Leu Val Thr Gln Lys Asp Gly Glu	
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Trp Trp Thr Gly Ser Ile Gly Glu Arg Thr Gly Ile Phe Pro Ser Asn	
980 985 990	
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Tyr Val Arg Pro Lys Asp Gln Glu Asn Phe Gly Asn Ala Ser Lys Ser	
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Gly Ala Ser Asn Lys Lys Pro Glu Ile Ala Gln Val Thr Ser Ala Tyr	
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Leu Ile Leu Lys Lys Asn Thr Ser Gly Trp Trp Gln Gly Glu Leu Gln	
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gcc aga ggg aag aaa cga cag aag gga tgg ttt cct gcc agc cat gta	3216
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cct tca aac tat gtt aag atg aca aca gac tca gat cca agt caa cag	3456
Pro Ser Asn Tyr Val Lys Met Thr Thr Asp Ser Asp Pro Ser Gln Gln	
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Trp Cys Ala Asp Leu Gln Ala Leu Asp Thr Met Gln Pro Thr Glu Arg	
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Lys Arg Gln Gly Tyr Ile His Glu Leu Ile Gln Thr Glu Glu Arg Tyr	
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Met Asp Asp Asp Leu Gln Leu Val Ile Glu Val Phe Gln Lys Arg Met	
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Ala Glu Glu Gly Phe Leu Thr Glu Ala Asp Met Ala Leu Ile Phe Val	
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Asn Trp Lys Glu Leu Ile Met Ser Asn Thr Lys Leu Leu Arg Ala Leu	
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cgg gtg agg aag aag act ggg ggt gag aag atg cca gtt cag atg att	3744
Arg Val Arg Lys Lys Thr Gly Gly Glu Lys Met Pro Val Gln Met Ile	
1235 1240 1245	
gga gac atc ctg gcg gca gag ctg tcc cac atg cag gcc tac atc cgc	3792
Gly Asp Ile Leu Ala Ala Glu Leu Ser His Met Gln Ala Tyr Ile Arg	
1250 1255 1260	
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Phe Cys Ser Cys Gln Leu Asn Gly Ala Thr Leu Leu Gln Gln Lys Thr	
1265 1270 1275 1280	
gac gag gac acg gac ttc aag gaa ttt cta aag aag ttg gca tca gac	3888
Asp Glu Asp Thr Asp Phe Lys Glu Phe Leu Lys Lys Leu Ala Ser Asp	
1285 1290 1295	
cca cga tgc aaa ggg atg ccc ctc tcc agc ttc ctg ctg aag ccc atg	3936
Pro Arg Cys Lys Gly Met Pro Leu Ser Ser Phe Leu Leu Lys Pro Met	
1300 1305 1310	
cag agg atc act cgc tac ccg ctg ctc atc cga agt atc ctg gag aac	3984
Gln Arg Ile Thr Arg Tyr Pro Leu Leu Ile Arg Ser Ile Leu Glu Asn	
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act cca cag agt cat gtt gac cac tcc tcc ctg aag ctg gcc cta gaa	4032
Thr Pro Gln Ser His Val Asp His Ser Ser Leu Lys Leu Ala Leu Glu	
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Gly Leu Ala Glu Gln Leu Ile Phe Asn Ser Leu Thr Asn Cys Leu Gly	
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Pro Arg Lys Leu Leu His Ser Gly Lys Leu Tyr Lys Thr Lys Ser Asn	
1395 1400 1405	
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Lys Glu Leu His Ala Phe Leu Phe Asn Asp Phe Leu Leu Leu Thr Tyr	
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Ser Lys Ser Ser Ala Gln Phe Arg Met Tyr Lys Thr Pro Ile Phe Leu	
1445	1450 1455
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Val Phe His Ile Ser His Ile Asp Arg Val Tyr Thr Leu Arg Thr Asp	
1475	1480 1485
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gcc cgt tct caa aag act tca ggt att ggg cgt ctg atg gtg cat gtc	4608
Ala Arg Ser Gln Lys Thr Ser Gly Ile Gly Arg Leu Met Val His Val	
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Ile Glu Ala Thr Glu Leu Lys Ala Cys Lys Pro Asn Gly Lys Ser Asn	
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Ile Lys Asp Leu Tyr Gln Asp Val Leu Cys Leu Thr Met Phe Asp Arg	
1585	1590 1595 1600
gac cag ttt tct cca gat gac ttc ttg ggt cgt act gaa gtt cca gtg	4848
Asp Gln Phe Ser Pro Asp Asp Phe Leu Gly Arg Thr Glu Val Pro Val	
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Ala Lys Ile Arg Thr Glu Gln Glu Ser Lys Gly Pro Thr Thr Arg Arg	
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Leu Leu Leu His Glu Val Pro Thr Gly Glu Val Trp Val Arg Phe Asp	
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1650	1655

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Lys Pro Ser Gly Gly Tyr Ile Thr Gly Asp Gln Ala Arg Thr Phe Phe  
35 40 45  
Leu Gln Ser Gly Leu Pro Ala Pro Val Leu Ala Glu Ile Trp Ala Leu  
50 55 60  
Ser Asp Leu Asn Lys Asp Gly Lys Met Asp Gln Gln Glu Phe Ser Ile  
65 70 75 80  
Ala Met Lys Leu Ile Lys Leu Lys Leu Gln Gly Gln Gln Leu Pro Val  
85 90 95  
Val Leu Pro Pro Ile Met Lys Gln Pro Pro Met Phe Ser Pro Leu Ile  
100 105 110  
Ser Ala Arg Phe Gly Met Gly Ser Met Pro Asn Leu Ser Ile His Gln  
115 120 125  
Pro Leu Pro Pro Val Ala Pro Ile Ala Thr Pro Leu Ser Ser Ala Thr  
130 135 140  
Ser Gly Thr Ser Ile Pro Pro Leu Met Met Pro Ala Pro Leu Val Pro  
145 150 155 160  
Ser Val Ser Thr Ser Ser Leu Pro Asn Gly Thr Ala Ser Leu Ile Gln  
165 170 175  
Pro Leu Ser Ile Pro Tyr Ser Ser Ser Thr Leu Pro His Ala Ser Ser  
180 185 190  
Tyr Ser Leu Met Met Gly Gly Phe Gly Gly Ala Ser Ile Gln Lys Ala  
195 200 205  
Gln Ser Leu Ile Asp Leu Gly Ser Ser Ser Ser Thr Ser Ser Thr Ala  
210 215 220  
Ser Leu Ser Gly Asn Ser Pro Lys Thr Gly Thr Ser Glu Trp Ala Val  
225 230 235 240  
Pro Gln Pro Ser Arg Leu Lys Tyr Arg Gln Lys Phe Asn Ser Leu Asp  
245 250 255  
Lys Gly Met Ser Gly Tyr Leu Ser Gly Phe Gln Ala Arg Asn Ala Leu  
260 265 270  
Leu Gln Ser Asn Leu Ser Gln Thr Gln Leu Ala Thr Ile Trp Thr Leu  
275 280 285  
Ala Asp Ile Asp Gly Asp Gly Gln Leu Lys Ala Glu Glu Phe Ile Leu  
290 295 300  
Ala Met His Leu Thr Asp Met Ala Lys Ala Gly Gln Pro Leu Pro Leu

305	310	315	320
Thr Leu Pro Pro Glu Leu Val Pro Pro Ser Phe Arg Gly Gly Lys Gln			
325		330	335
Val Asp Ser Val Asn Gly Thr Leu Pro Ser Tyr Gln Lys Thr Gln Glu			
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Glu Glu Pro Gln Lys Lys Leu Pro Val Thr Phe Glu Asp Lys Arg Lys			
355	360		365
Ala Asn Tyr Glu Arg Gly Asn Met Glu Leu Glu Lys Arg Arg Gln Val			
370	375		380
Leu Met Glu Gln Gln Gln Arg Glu Ala Glu Arg Lys Ala Gln Lys Glu			
385	390	395	400
Lys Glu Glu Trp Glu Arg Lys Gln Arg Glu Leu Gln Glu Gln Glu Trp			
	405	410	415
Lys Lys Gln Leu Glu Leu Glu Lys Arg Leu Glu Lys Gln Arg Glu Leu			
	420	425	430
Glu Arg Gln Arg Glu Glu Glu Arg Arg Lys Glu Ile Glu Arg Arg Glu			
	435	440	445
Ala Ala Lys Gln Glu Leu Glu Arg Gln Arg Arg Leu Glu Trp Glu Arg			
	450	455	460
Leu Arg Arg Gln Glu Leu Leu Ser Gln Lys Thr Arg Glu Gln Glu Asp			
465	470	475	480
Ile Val Arg Leu Ser Ser Arg Lys Lys Ser Leu His Leu Glu Leu Glu			
	485	490	495
Ala Val Asn Gly Lys His Gln Gln Ile Ser Gly Arg Leu Gln Asp Val			
	500	505	510
Gln Ile Arg Lys Gln Thr Gln Lys Thr Glu Leu Glu Val Leu Asp Lys			
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Gln Cys Asp Leu Glu Ile Met Glu Ile Lys Gln Leu Gln Gln Glu Leu			
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Lys Glu Tyr Gln Asn Lys Leu Ile Tyr Leu Val Pro Glu Lys Gln Leu			
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Leu Asn Glu Arg Ile Lys Asn Met Gln Leu Ser Asn Thr Pro Asp Ser			
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Gly Ile Ser Leu Leu His Lys Lys Ser Ser Glu Lys Glu Glu Leu Cys			
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Gln Arg Leu Lys Glu Gln Leu Asp Ala Leu Glu Lys Glu Thr Ala Ser			
	595	600	605
Lys Leu Ser Glu Met Asp Ser Phe Asn Asn Gln Leu Lys Glu Leu Arg			
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Glu Ser Tyr Asn Thr Gln Gln Leu Ala Leu Glu Gln Leu His Lys Ile			



625	630	635	640
Lys Arg Asp Lys Leu Lys Glu Ile Glu Arg Lys Arg Leu Glu Gln Ile			
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Gln Lys Lys Lys Leu Glu Asp Glu Ala Ala Arg Lys Ala Lys Gln Gly			
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Lys Glu Asn Leu Trp Arg Glu Ser Ile Arg Lys Glu Glu Glu Lys			
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Gln Lys Arg Leu Gln Glu Glu Lys Ser Gln Asp Lys Thr Gln Glu Glu			
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Glu Arg Lys Ala Glu Ala Lys Gln Ser Glu Thr Ala Ser Ala Leu Val			
705	710	715	720
Asn Tyr Arg Ala Leu Tyr Pro Phe Glu Ala Arg Asn His Asp Glu Met			
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Ser Phe Ser Ser Gly Asp Ile Ile Gln Val Asp Glu Lys Thr Val Gly			
740	745	750	
Glu Pro Gly Trp Leu Tyr Gly Ser Phe Gln Gly Lys Phe Gly Trp Phe			
755	760	765	
Pro Cys Asn Tyr Val Glu Lys Val Leu Ser Ser Glu Lys Ala Leu Ser			
770	775	780	
Pro Lys Lys Ala Leu Leu Pro Pro Thr Val Ser Leu Ser Ala Thr Ser			
785	790	795	800
Thr Ser Ser Gln Pro Pro Ala Ser Val Thr Asp Tyr His Asn Val Ser			
805	810	815	
Phe Ser Asn Leu Thr Val Asn Thr Thr Trp Gln Gln Lys Ser Ala Phe			
820	825	830	
Thr Arg Thr Val Ser Pro Gly Ser Val Ser Pro Ile His Gly Gln Gly			
835	840	845	
Gln Ala Val Glu Asn Leu Lys Ala Gln Ala Leu Cys Ser Trp Thr Ala			
850	855	860	
Lys Lys Glu Asn His Leu Asn Phe Ser Lys His Asp Val Ile Thr Val			
865	870	875	880
Leu Glu Gln Gln Glu Asn Trp Trp Phe Gly Glu Val His Gly Gly Arg			
885	890	895	
Gly Trp Phe Pro Lys Ser Tyr Val Lys Leu Ile Pro Gly Asn Glu Val			
900	905	910	
Gln Arg Gly Glu Pro Glu Ala Leu Tyr Ala Ala Val Thr Lys Lys Pro			
915	920	925	
Thr Ser Thr Ala Tyr Pro Val Thr Ser Thr Ala Tyr Pro Val Gly Glu			
930	935	940	
Asp Tyr Ile Ala Leu Tyr Ser Tyr Ser Ser Val Glu Pro Gly Asp Leu			

945	950	955	960
Thr Phe Thr Glu Gly Glu Glu Ile Leu Val Thr Gln Lys Asp Gly Glu	965	970	975
Trp Trp Thr Gly Ser Ile Gly Glu Arg Thr Gly Ile Phe Pro Ser Asn	980	985	990
Tyr Val Arg Pro Lys Asp Gln Glu Asn Phe Gly Asn Ala Ser Lys Ser	995	1000	1005
Gly Ala Ser Asn Lys Lys Pro Glu Ile Ala Gln Val Thr Ser Ala Tyr	1010	1015	1020
Ala Ala Ser Gly Thr Glu Gln Leu Ser Leu Ala Pro Gly Gln Leu Ile	025	1030	1035
1040			
Leu Ile Leu Lys Lys Asn Thr Ser Gly Trp Trp Gln Gly Glu Leu Gln	1045	1050	1055
Ala Arg Gly Lys Lys Arg Gln Lys Gly Trp Phe Pro Ala Ser His Val	1060	1065	1070
Lys Leu Leu Gly Pro Ser Ser Glu Arg Thr Met Pro Thr Phe His Ala	1075	1080	1085
Val Cys Gln Val Ile Ala Met Tyr Asp Tyr Met Ala Asn Asn Glu Asp	1090	1095	1100
Glu Leu Asn Phe Ser Lys Gly Gln Leu Ile Asn Val Met Asn Lys Asp	105	1110	1115
1120			
Asp Pro Asp Trp Trp Gln Gly Glu Thr Asn Gly Leu Thr Gly Leu Phe	1125	1130	1135
Pro Ser Asn Tyr Val Lys Met Thr Thr Asp Ser Asp Pro Ser Gln Gln	1140	1145	1150
Trp Cys Ala Asp Leu Gln Ala Leu Asp Thr Met Gln Pro Thr Glu Arg	1155	1160	1165
Lys Arg Gln Gly Tyr Ile His Glu Leu Ile Gln Thr Glu Glu Arg Tyr	1170	1175	1180
Met Asp Asp Asp Leu Gln Leu Val Ile Glu Val Phe Gln Lys Arg Met	185	1190	1195
1200			
Ala Glu Glu Gly Phe Leu Thr Glu Ala Asp Met Ala Leu Ile Phe Val	1205	1210	1215
Asn Trp Lys Glu Leu Ile Met Ser Asn Thr Lys Leu Leu Arg Ala Leu	1220	1225	1230
Arg Val Arg Lys Lys Thr Gly Gly Glu Lys Met Pro Val Gln Met Ile	1235	1240	1245
Gly Asp Ile Leu Ala Ala Glu Leu Ser His Met Gln Ala Tyr Ile Arg	1250	1255	1260
Phe Cys Ser Cys Gln Leu Asn Gly Ala Thr Leu Leu Gln Gln Lys Thr			

265	1270	1275	1280
Asp Glu Asp Thr Asp Phe Lys Glu Phe Leu Lys Lys Leu Ala Ser Asp	1285	1290	1295
Pro Arg Cys Lys Gly Met Pro Leu Ser Ser Phe Leu Leu Lys Pro Met	1300	1305	1310
Gln Arg Ile Thr Arg Tyr Pro Leu Leu Ile Arg Ser Ile Leu Glu Asn	1315	1320	1325
Thr Pro Gln Ser His Val Asp His Ser Ser Leu Lys Leu Ala Leu Glu	1330	1335	1340
Arg Ala Glu Glu Leu Cys Ser Gln Val Asn Glu Gly Val Arg Glu Lys	345	1350	1355
Glu Asn Ser Asp Arg Leu Glu Trp Ile Gln Ala His Val Gln Cys Glu	1365	1370	1375
Gly Leu Ala Glu Gln Leu Ile Phe Asn Ser Leu Thr Asn Cys Leu Gly	1380	1385	1390
Pro Arg Lys Leu Leu His Ser Gly Lys Leu Tyr Lys Thr Lys Ser Asn	1395	1400	1405
Lys Glu Leu His Ala Phe Leu Phe Asn Asp Phe Leu Leu Leu Thr Tyr	1410	1415	1420
Leu Val Arg Gln Phe Ala Ala Ala Ser Gly His Glu Lys Leu Phe Asn	425	1430	1435
Ser Lys Ser Ser Ala Gln Phe Arg Met Tyr Lys Thr Pro Ile Phe Leu	1445	1450	1455
Asn Glu Val Leu Val Lys Leu Pro Thr Asp Pro Ser Gly Asp Glu Pro	1460	1465	1470
Val Phe His Ile Ser His Ile Asp Arg Val Tyr Thr Leu Arg Thr Asp	1475	1480	1485
Asn Ile Asn Glu Arg Thr Ala Trp Val Gln Lys Ile Lys Gly Ala Ser	1490	1495	1500
Glu Gln Tyr Ile Asp Thr Glu Lys Lys Lys Arg Glu Lys Ala Tyr Gln	505	1510	1515
Ala Arg Ser Gln Lys Thr Ser Gly Ile Gly Arg Leu Met Val His Val	1525	1530	1535
Ile Glu Ala Thr Glu Leu Lys Ala Cys Lys Pro Asn Gly Lys Ser Asn	1540	1545	1550
Pro Tyr Cys Glu Val Ser Met Gly Ser Gln Ser Tyr Thr Thr Arg Thr	1555	1560	1565
Leu Gln Asp Thr Leu Asn Pro Lys Trp Asn Phe Asn Cys Gln Phe Phe	1570	1575	1580
Ile Lys Asp Leu Tyr Gln Asp Val Leu Cys Leu Thr Met Phe Asp Arg			

585					1590					1595					1600
Asp	Gln	Phe	Ser	Pro	Asp	Asp	Phe	Leu	Gly	Arg	Thr	Glu	Val	Pro	Val
				1605					1610					1615	
Ala	Lys	Ile	Arg	Thr	Glu	Gln	Glu	Ser	Lys	Gly	Pro	Thr	Thr	Arg	Arg
			1620					1625					1630		
Leu	Leu	Leu	His	Glu	Val	Pro	Thr	Gly	Glu	Val	Trp	Val	Arg	Phe	Asp
		1635					1640					1645			
Leu	Gln	Leu	Phe	Glu	Gln	Lys	Thr	Leu	Leu						
	1650					1655									

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<213> Artificial Sequence

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<223> Description of Artificial Sequence:primer

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<211> 21

<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence:peptide

<400> 33

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Ile Thr Val Glu Glu  
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